

What Is Claimed Is:

1. A method for generating a reusable executable procedure, comprising the steps of:

obtaining a plurality of execution traces, wherein each
5 execution trace represents an execution instance of a procedure;

aligning said execution traces to identify corresponding steps between said execution traces; and

processing said aligned execution traces to create a
10 reusable executable procedure associated with said procedure.

2. The method of claim 1, wherein the step of obtaining an execution trace comprises monitoring and
15 recording a sequence of actions that are performed by an individual when executing an instance of said procedure.

3. The method of claim 2, further comprising annotating at least one action that is performed when
20 executing an instance of said procedure.

4. The method of claim 1, wherein the step of obtaining one or more execution traces comprises retrieving said execution traces from a repository.

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5. The method of claim 1, wherein the step of processing said aligned execution traces comprises generalizing said aligned execution traces to generate said reusable executable procedure.

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6. The method of claim 5, wherein the step of generalizing comprises generalizing branches of procedures, generalizing iterations of procedures, generalizing recovery from failure of procedures, or generalizing variables of procedures or any combination thereof.

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7. The method of claim 1, wherein said reusable executable procedure comprises a procedure for diagnosing hardware or software in a computer system.

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8. The method of claim 1, further comprising the step of storing said reusable executable procedure in a library of reusable executable procedures.

20 9. The method of claim 1, further comprising the step of augmenting said reusable executable procedure using an execution trace that is obtained during execution of said reusable executable procedure.

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10. A method for executing a reusable procedure,
comprising the steps of:

launching a reusable executable procedure;

automatically executing procedure steps associated with

5 said reusable executable procedure; and

relinquishing control of execution of said reusable
procedure to a user, when a next step of said reusable
executable procedure cannot be successfully executed.

10 11. The method of claim 10, further comprising the
steps of:

monitoring user actions while the user is executing
steps of said reusable executable procedure; and

aligning said monitored user actions to said reusable
15 procedure; and

continuing automatic execution of said reusable
procedure, if said monitored steps align with said reusable
procedure.

20 12. The method of claim 11, wherein the step of
continuing automatic execution comprises obtaining
confirmation from the user to continue automatic execution
of said reusable executable procedure.

13. The method of claim 11, further comprising the step of using said monitored user actions to augment said reusable executable procedure.

5 14. The method of claim 10, further comprising the step of prompting a user for input for executing a step of said reusable executable procedure.

15 15. The method of claim 10, wherein the step of automatically executing procedure steps associated with said reusable executable procedure, comprises the steps of:

describing a procedure step to the user; and
automatically executing said procedure step, if
execution of said procedure step is authorized by said user.

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16. The method of claim 10, wherein the step of automatically executing procedure steps associated with said reusable executable procedure, comprises the steps of:

describing a plurality of procedure steps for selection
20 by the user; and

automatically executing a procedure step selected by
the user.

17. The method of claim 15, wherein the step of
25 describing a procedure step to the user comprises displaying

a previously recorded annotation associated with said procedure step.

18. The method of claim 15, wherein the step of
5 describing a procedure step to the user comprises visually demonstrating said procedure step to the user.

19. The method of claim 10, further comprising the step of relinquishing control of execution of said reusable
10 procedure to a user upon request of said user.

20. A system for providing technical support, comprising:

a client device comprising an application for
15 monitoring and recording a procedure that is performed using said client device and generating an execution trace representing an instance of said procedure;

a procedure trace repository for storing execution traces; and

20 a server for processing a plurality of execution traces associated with instances of an executed procedure to generate a reusable executable procedure.

21. The system of claim 20, further comprising a
25 library for storing reusable executable procedures.

22. The system of claim 20, wherein the server distributes a reusable executable procedure to a client device comprising an execution engine for executing said reusable executable procedure.

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23. The system of claim 22, wherein said reusable executable procedure is executed for upgrading software residing on the client device.

10 24. The system of claim 22, wherein said reusable executable procedure is executed for providing diagnostic support.

25. The system of claim 22, wherein an execution
15 engine of a client device comprises means for allowing a user to manually execute at least a portion of said reusable executable device and generating an execution trace representing said manual execution, wherein said execution trace representing said manual execution is processed by
20 said server to augment said reusable executable procedure.

26. A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for generating a
25 reusable executable procedure, the method steps comprising:

obtaining a plurality of execution traces, wherein each execution trace represents an execution instance of a procedure; and

processing said execution traces to create a reusable
5 executable procedure associated with said procedure.

27. The program storage device of claim 26, wherein the instructions for obtaining an execution trace comprise instructions for monitoring and recording a sequence of
10 actions that are performed by an individual when executing an instance of said procedure.

28. The program storage device of claim 26, wherein the instructions for processing said execution traces
15 comprise instructions for performing the steps of:

aligning said execution traces to identify
corresponding steps between said execution traces; and
generalizing said aligned execution traces to generate
said reusable executable procedure.

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29. The program storage device of claim 26, further comprising instructions for performing the step of
augmenting said reusable executable procedure using an
execution trace that is obtained during execution of said
25 reusable executable procedure.

30. A program storage device readable by machine,
tangibly embodying a program of instructions executable by
the machine to perform method steps for executing a reusable
5 procedure, the method steps comprising:

launching a reusable executable procedure;
automatically executing procedure steps associated with
said reusable executable procedure; and
relinquishing control of execution of said reusable
10 procedure to a user, when a next step of said reusable
executable procedure cannot be successfully executed.

31. The program storage device of claim 30, further
comprising instructions for performing the steps of:

15 monitoring user actions while the user is executing
steps of said reusable executable procedure;
aligning said monitored user actions to said reusable
procedure; and

continuing automatic execution of said reusable
20 procedure, if said monitored steps align with said reusable
procedure.

32. The program storage device of claim 30, wherein
the instructions for automatically executing procedure steps

associated with said reusable executable procedure, comprise instructions for performing the steps of:

describing a procedure step to the user; and

automatically executing said procedure step, if

5 execution of said procedure step is authorized by said user.

33. The program storage device of claim 30, wherein the instructions for automatically executing procedure steps associated with said reusable executable procedure, comprise
10 instructions for performing the steps of:

describing a plurality of procedure steps for selection by the user; and

automatically executing a procedure step selected by the user.

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34. The program storage device of claim 30, further comprising instructions for performing the step of relinquishing control of execution of said reusable procedure to a user upon request of said user.

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